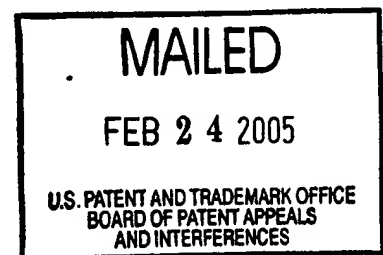# UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN R. LAWRENCE AND C. LEE GILES

Appeal No. 2004-0101
Application No. 09/113,751

ON BRIEF

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U.S. PATENT AND TRADEMARK OFFICE
    BOARD OF PATENT APPEALS
      AND INTERFERENCES
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Before JERRY SMITH, BARRY, and NAPPI, *Administrative Patent Judges.*

BARRY, *Administrative Patent Judge.*

DECISION ON APPEAL

A patent examiner rejected claims 1, 3-16, 18-29, 46, 48-52, 54-57, and 80-90.

The appellants appeal therefrom under 35 U.S.C. § 134(a). We affirm-in-part.

BACKGROUND

The invention at issue on appeal concerns searching the World Wide Web

("Web"). Although useful, popular search engines are available, the appellants opine

that "searching the Web can still be a slow and tedious process." (Spec. at 1.)

The appellants' invention forwards a searching query to third party search

engines, and the responses therefrom are parsed to extract data regarding documents

matching the query. The full text of those documents is downloaded, and the query

terms therein are located. Text surrounding the query terms is extracted, and that text

is displayed. (*Id.* at 62.) Results are displayed "progressively." (Claim 1.) A further

understanding of the progressive displaying can be achieved by reading the following

claim:

> 1. A computer-implemented meta search engine method, comprising the
> steps of:
>
> > forwarding a query to a plurality of third party search engines;
> > receiving and processing in parallel responses from the third party search
> > engines, said responses identifying documents in response to the query,
> > said processing including the steps of,
> >
> > > (a) downloading the full text of the documents identified in
> > > response to the query, and
> > >
> > > (b) locating query terms in the documents and extracting text
> > > surrounding the query terms to form at least one context string; and
> >
> > progressively displaying information regarding the documents, and
> > the at least one context string surrounding one or more of the query terms
> > for each processed document containing the query terms.

Their invention identifies co-occurring phrases and conjunctions thereof in the

documents. (Spec. at 20.) Based on the identification, pages of the documents are

arranged and displayed in clusters. The appellants assert that the clustering "is

designed as an aid to information recovery, i.e., out of the many hits returned for a

given query, what topics are covered? This allows a user to refine their [sic] query in

order to investigate one of the subtopics." (*Id.*) A further understanding of the

clustering can be achieved by reading the following claim:

> 86. A computer-implemented meta search engine method, comprising the steps of:
>
> > forwarding a query to a plurality of third party search engines;
> >
> > receiving and processing responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,
> >
> > > (a) downloading the full text of the documents identified in response to the query, and
> > >
> > > (b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string;
> >
> > displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms; and
> >
> > clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions thereof and displaying the information regarding the documents arranged by said clusters.

Their invention expands queries using only a subset of morphological variants

that occur on more than one percent of pages matching an original query. (*Id.* at 23.)

More specifically, a search is conducted based on query terms; the search retrieves a

set of web pages. The query terms are then stemmed and the retrieved pages are

searched for the morphological variants of the query terms. Those morphological

variants that occur on the retrieved pages are displayed to the user for possible

inclusion in a subsequent query. For the query "NEC" and "digital watermark", for

example, the invention suggests the following terms for query expansion: "digitally,"

"watermarking," "watermarks," and "watermarked." (*Id.*) A further understanding of the

query expansion can be achieved by reading the following claim.

87. A computer-implemented meta search engine method, comprising the steps of:

forwarding a query to a plurality of third party search engines;

receiving and processing responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,

(a) downloading the full text of the documents identified in response to the query, and

(b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string;

displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms; and

displaying suggested additional query terms for expanding the query based on terms in the documents identified in response to the query.

The appellants' invention also transforms a query phrased as a question into specific forms for expressing the answer to the question. For example, the query "[w]hat does NASDAQ stand for?" is transformed into the following forms: "NASDAQ stands for," "NASDAQ is an abbreviation," and "NASDAQ means." (*Id.*) The transformed query is used in a search. If the search reveals that data exist in one of the aforementioned forms, the appellants assert that finding these phrases will likely provide the answer to the original query. (Spec. at 24.) A further understanding of the query transformation can be achieved by reading the following claim.

> 88. A computer-implemented meta search engine method, comprising the steps of:
>
> receiving a query and transforming the query from a form of a question into a form of an answer;
>
> forwarding the transformed query to a plurality of third party search engines;
>
> receiving and processing responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,
>
> (a) downloading the full text of the documents identified in response to the query, and
>
> (b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string; and
>
> displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms.

The inventions also "display[s] an indication of how close the query terms are to

each other in the documents." (Claim 89.[1]) A further understanding of the closeness

indication can be achieved by reading the following claim:

89. A computer-implemented meta search engine method,
comprising the steps of:

forwarding a query to a plurality of third party search engines;

receiving and processing responses from the third party search
engines, said responses identifying documents in response to the query,
said processing including the steps of,

(a) downloading the full text of the documents identified in
response to the query, and

(b) locating query terms in the documents and extracting text
surrounding the query terms to form at least one context string;

displaying information regarding the documents, including the at
least one context string surrounding one or more of the query terms for
each processed document containing the query terms; and

displaying an indication of how close the query terms are to each
other in the documents.

---

[1]Regarding claim 89 *inter alia*, the appellants' brief omits "[a] concise explanation
of the invention defined in the claim[] . . . , which shall refer to the specification by page
and line number, and to the drawing, if any, by reference characters." 37 C.F.R. §
1.192(c)(5). Absent such a reference, we were unable to find a further description of
this feature in the rest of their specification.

Claims 1, 3-16, 18-29, 46, 48-52, 54-57, and 80-90 stand rejected under 35

U.S.C. § 103(a) as obvious over U.S. Patent No. 6,078,914 ("Redfern") and *Text*

Search and Retrieval Examiner Training Manual for the Automated Patent System

(APS).[2]

OPINION

Our opinion addresses the claims in the following order:

- claims 1, 3-16, 18-29, 46, 48-52, 54-57, 80-85, and 90
- claim 86
- claim 87
- claim 88
- claim 89.

A. CLAIMS 1, 3-16, 18-29, 46, 48-52, 54-57, 80-85, AND 90

"[T]o assure separate review by the Board of individual claims within each group

of claims subject to a common ground of rejection, an appellant's brief to the Board

must contain a clear statement for each rejection: (a) asserting that the patentability of

claims within the group of claims subject to this rejection do not stand or fall together,

and (b) identifying which individual claim or claims within the group are separately

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[2]Although the examiner's stated grounds of rejection for dependent claims 3-15, 18-29, 48-51, 54-57, and 80-85 omit APS, (Examiner's Answer at 3), those claims depend from claims rejected under Redfern **and** APS. (*Id.*). Therefore, we treat the dependent claims as also rejected under Redfern and APS.

patentable and the reasons why the examiner's rejection should not be sustained." *In re McDaniel*, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) (citing 37 C.F.R. §1.192(c)(7) (2001)). "If the brief fails to meet either requirement, the Board is free to select a single claim from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim." *Id.*, 63 USPQ2d at 1465.

Here, the appellants stipulate that "[c]laims 1, 3-16, 18-29, 46, 48-52, 54-57, 80-85 and 90, on appeal, all stand or fall together." (Appeal Br. at 8.) We select claim 1 from the group as representative of the claims therein.

With this representation in mind, rather than reiterate the positions of the examiner or the appellants *in toto*, we focus on the point of contention therebetween. The examiner asserts, "appendix g shows the search results for Excite; col. 27, lines 1-66, col. 28, lines 1-66, col. 29, lines 1-30 and lines 31-40. . . ." (Examiner's Answer at 12.) The appellants argue, "Redfern processes all of the selected number of information sources before display (not progressive display) and APS displays a section of one patent at once (not progressive display)." (Appeal Br. at 11.)

In addressing the point of contention, the Board conducts a two-step analysis.

First, we construe the representative claim to determine their scope. Second, we

determine whether the construed claims would have been obvious.

1. Claim Construction

"Analysis begins with a key legal question — *what* is the invention *claimed*?"

Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed.

Cir. 1987). In answering the question, "the Board must give claims their broadest

reasonable construction. . . ." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664,

1668 (Fed. Cir. 2000). "Moreover, limitations are not to be read into the claims from the

specification." *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed.

Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir.

1989)).

Here, claim 1 recites in pertinent part the following limitations: "progressively

displaying information regarding the documents. . . ." Giving the representative claim

its broadest, reasonable construction, the limitations require displaying document data

in progression.

2. Obviousness Determination

Having determined what subject matter is being claimed, the next inquiry is

whether the subject matter would have been obvious. The question of obviousness is

"based on underlying factual determinations including . . . what th[e] prior art teaches

explicitly and inherently. . . ." *In re Zurko*, 258 F.3d 1379, 1383, 59 USPQ2d 1693,

1696 (Fed. Cir. 2001) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ

459, 467 (1966); *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ 1614, 1616 (Fed. Cir.

1999); *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995)).

Here, Redfern discloses "a meta-search system 20. . . ." Col. 4, l. 8. The "meta-

search system can accept a natural language query, extract relevant terms and/or

phrases from that query to produce search queries appropriate to each of one or more

search engines." *Id.* at ll. 13-16. "The meta-search system has one or more of these

search engines process a search query or queries to provide the meta-search system

with a list of 'hits'. The meta-search engine accumulates these hits and examines them

to remove redundancies." *Id.* at ll. 16-20. "A copy of the complete information source is

retrieved for a pre-selected number of the non-redundant hits and these copies are

examined by the meta-search engine to determine a ranking for each information

source and to determine the portions of the information source which relate to the

extracted relevant terms. These portions are output to the user, in ranked order, as the results of the search." *Id.* at ll. 20-27.

"Appendix G shows the actual HTML pages returned by each search engine. . . ." Col. 16, ll. 1-2. The reference's "[i]nformation retrieval means 50 then retrieves each of the information sources listed in Appendix G, if possible, and these retrieved information sources are processed by Selector means 58 to obtain the list of cleaned up final segments shown in Appendix I." Col. 16, ll. 29-34. "Appendix J shows the formatted text (converted from the raw HTML code) of two of the information sources retrieved from the information source listed in Appendix G and Appendix K shows the final segments from these information sources, as output to the user by output means 62." *Id.* at ll. 41-45.

Reading Appendix K from left-to-right and from top-to-bottom, the Appendix shows that "Result #2," col. 34, l. 15, a document "[f]rom: dnr.state.il.us," *id.* at l. 18, is displayed above, i.e., before, "Result #3," *id.* at l. 24, a document "[f]rom: www.tnc.org." *Id.* at l. 27. Because the document from "dnr.state.il.us," is displayed before the document from "www.tnc.org," we find that Redfern displays document data in progression. Therefore, we affirm the obviousness rejection of claim 1 and of claims 3-16, 18-29, 46, 48-52, 54-57, 80-85 and 90, which fall therewith.

B. CLAIM 86

The examiner asserts, "Redfern teaches, clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions and displaying the information regarding the documents arranged by clusters in col. 9, lines 44-65 . . . and Appendix J." (Examiner's Answer at 16.) The appellants argue, "the sections cited by the Examiner in connection with the rejection of Claim 86 are directed to simplifying the search query, not to clustering the documents retrieved in response to the query and for displaying information regarding the documents arranged by the clusters." (Appeal Br. at 12.)

1. Claim Construction

"The Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art." *In re Lowry*, 32 F.3d 1579, 1582, 32 USPQ2d 1031, 1034 (Fed. Cir. 1994) (citing *In re* Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 403-04 (Fed. Cir. 1983)). Here, claim 86 recites in pertinent part the following limitations: "clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions thereof and displaying the information regarding the documents arranged by said clusters." Considering these limitations, claim 86 requires displaying document data arranged into clusters, wherein the clusters are based on analysis of the full text of

each document and identification of co-occurring phrases and words and conjunctions

thereof.

2. Obviousness Determination

"In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial

burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531,

1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443,

1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)). "'A *prima facie* case of obviousness is

established when the teachings from the prior art itself would appear to have suggested

the claimed subject matter to a person of ordinary skill in the art.'" *In re Bell*, 991 F.2d

781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d

1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, the first passage of Redfern cited by the examiner explains that "[i]f one or

more boolean-type search engines such as Excite, AltaVista, etc. are included in the

set of search engines, at step 516, search data 28 is simplified for such engines."

Col. 9, ll. 39-42. "FIG. 5a shows a simplification for such boolean engines. . . ." *Id.* at

l. 43. The examiner's rejection does not specify how such simplification "cluster[s] the

documents based on analysis of the full text of each document and identification of co-

occurring phrases and words, and conjunctions. . . ." (Examiner's Answer at 16.) We

will not "resort to speculation," *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178

(CCPA 1967), as to the examiner's position. Furthermore, we agree with the appellants

that simplifying the search query does not involve "displaying information regarding the

documents arranged by the clusters." (Appeal Br. at 12.)

The other passage of Redfern cited by the examiner, viz., Appendix J, "shows

the formatted text (converted from the raw HTML code) of two of the information

sources retrieved from the information source listed in Appendix G. . . ." Col. 16, ll. 41-

43. Again, the examiner's rejection does not specify how the formatted text "cluster[s]

the documents based on analysis of the full text of each document and identification of

co-occurring phrases and words, and conjunctions. . . ." (Examiner's Answer at 16.)

Again, we decline to "resort to speculation," *Warner*, 379 F.2d at 1017, 154 USPQ at

178, as to the examiner's position. Furthermore, Appendix K, not Appendix J, "shows

the final segments from these information sources, as output to the user by output

means 62." Col. 16, ll. 44-45.

The examiner does not allege, let alone show, that the addition of APS cures the

aforementioned deficiency of Redfern. Absent a teaching or suggestion of displaying

document data arranged into clusters, wherein the clusters are based on analysis of the

full text of each document and identification of co-occurring phrases and words and

conjunctions thereof, we are unpersuaded of a *prima facie* case of obviousness.

Therefore, we reverse the obviousness rejection of claim 86.

C. CLAIM 87

The examiner asserts, "Redfern teaches displaying suggested additional query

terms for expanding the query based on terms in the documents identified in response

to the query (col. 5, lines 1-4)." (Examiner's Answer at 5.) The appellants argue,

"Redfern merely revises and simplifies the query terms based on the terms themselves

and not based on documents that are identified in response to the query, which

documents actually contain query terms." (Appeal Br. at 15.)

1. Claim Construction

Claim 87 recites in pertinent part the following limitations: "displaying suggested

additional query terms for expanding the query based on terms in the documents

identified in response to the query." Considering these limitations, claim 87 requires

displaying suggested additional query terms for expanding a query based on terms in

the documents identified in response to the query.

2. Obviousness Determination

Redfern's meta-search "[s]ystem 20 includes a Natural Language Query Processor 24 which is operable to receive Natural Language Search Data 28 and to extract relevant terms and/or phrases therefrom." Col. 4, ll. 28-31. "Referring to FIG. 2, the parsing process 100 employed by processor 24 is shown. At step 104, search data 28 is accepted and processed to remove punctuation. At step 108, groups (words and/or phrases) are classified according to a preselected classification scheme." *Id.* at ll. 34-38.

"FIG. 3 illustrates sub-steps of step 108. . . ." *Id.* at l. 54. The passage cited by the examiner discloses that "at step 208, an 'or' expansion is performed if required. An 'or' expansion is intended to convert phrases such as 'big/huge/jumbo' into distinct terms separated by or's, i.e. —'big or huge or jumbo'." Col. 5, ll. 1-4. We agree with the appellants that the "or expansion" is "not based on documents that are identified in response to the query, which documents actually contain query terms." (Appeal Br. at 15.) Furthermore, the examiner has not shown that step 108 displays anything, let alone suggested additional query terms for expanding a query based on terms in the documents identified in response to the query.

In addition, the examiner does not allege, let alone show, that the addition of

APS cures the aforementioned deficiency of Redfern. Absent a teaching or suggestion

of displaying suggested additional query terms for expanding a query based on terms in

the documents identified in response to the query, we are unpersuaded of a *prima facie*

case of obviousness. Therefore, we reverse the obviousness rejection of claim 87.

D. CLAIM 88

The examiner asserts, "Redfern teaches, receiving a query and transforming the

query from the form of a question into the form of an answer prior to forwarding the

query to the plurality of third party search engines (col. 2, lines 21-27 and col. 15,

lines 42-49)." (Examiner's Answer at 5.) The appellants argue, "Redfern transforms its

natural language query into a format appropriate to the particular search engine, but

Redfern's format doesn't contemplate transformation of the natural language query in

the form of a question into a query in the form of an answer." (Appeal Br. at 13.)

1. Claim Construction

Claim 88 recites in pertinent part the following limitations: "receiving a query and

transforming the query from a form of a question into a form of an answer. . . ."

Considering these limitations, claim 88 requires determining whether a query is phrased

as a question and, if so, transforming the question into a form of an answer.

2. Obviousness Determination

The first passage of Redfern cited by the examiner concerns the use of "Natural Language Query (NLQ) systems," col. 2, l. 16, to "accept[] a search sentence or phrase in common everyday (natural) language and parses the input sentence or phrase in an attempt to extract meaning from it." *Id.* at ll. 18-20. "For example, a natural language search phrase used with a company's financial database may be 'Give me a list of the fourth quarter general ledger expense accounts.' This sentence will be processed by the NLQ system to determine the information required by the user which is then retrieved from the financial database as necessary." *Id.* at ll. 20-26.

Although the search phrase "'[g]ive me a list of the fourth quarter general ledger expense accounts,'" is a query, it is not in the form of a question. Furthermore, the examiner has not shown that "the information required by the user which is . . . retrieved from the financial database" is in the form of an answer.

The other passage of Redfern cited by the examiner describes "[a]n example of the operation of an embodiment of the [Redfern] invention. . . ." Col. 15, ll. 42-43. "In the example, the user has entered '[w]here do Monarch butterflies spend the winter?' as the Natural Language Search Data 28." *Id.* at ll. 43-45. Although the user's query is phrased as a question, we are unpersuaded that the reference transforms the question

into a form of an answer. To the contrary, "[t]he processed search data from the

Natural Language Query Processor 24 is 'rank1(Monarch) phrase(butterflies spend)

phrase (winter)' and this is passed to meta search engine 32." *Id.* at II. 46-49.

In addition, the examiner does not allege, let alone show, that the addition of

APS cures the aforementioned deficiency of Redfern. Absent a teaching or suggestion

of determining whether a query is phrased as a question and, if so, transforming the

question into a form of an answer, we are unpersuaded of a *prima facie* case of

obviousness. Therefore, we reverse the obviousness rejection of claim 88.

E. CLAIM 89

The examiner asserts, "Redfern does teach the step of displaying an indication

of how close the query terms are to each other in the documents in col. 10, lines 64-67

and col. 11, lines 1-10 ('The process for ranking of the information sources employs the

processed search data 28 from Natural Language Query Processor 24.' See fig. 5b

(608). Col. 11, lines 1-10 ('"A presently preferred scoring regime is given in

Appendix B.'))." (Examiner's Answer at 17.) The appellants argue, "[c]ontrary to the

recited subject matter in Claim 89, directed to displaying an indication of how close the

query terms are to each other in the documents, Redfern's scoring regime does not

contemplate raking [sic] its information sources on the basis of how close the query

terms are to one another and further does not teach or suggest displaying an indication

of how close the query terms are in the information sources." (Appeal Br. at 14.)

1. Claim Construction

Claim 89 recites in pertinent part the following limitations: "downloading the full

text of the documents identified in response to the query, and . . . displaying an

indication of how close the query terms are to each other in the documents."

Considering these limitations, claim 89 requires displaying an indication of how close

query terms are to each other in documents downloaded in response to the query.

2. Obviousness Determination

The passages of Redfern cited by the examiner disclose that "[t]he process for

ranking of the information sources employs the processed search data 28 from Natural

Language Query Processor 24." Col. 10, ll. 64-65. "Specifically, as illustrated at

step 680 of FIG. 6, a scoring regime is established for the retrieved information sources

relative to the processed search data 28 and a score table is created to hold

determined scores for each information source. A presently preferred scoring regime is

given in Appendix B." Col. 10, l. 66 - col. 11, l. 4. The examiner has not shown that the

reference's process for ranking information sources displays anything, let alone an

indication of how close query terms are to each other in documents downloaded in response to a query.

In addition, the examiner does not allege, let alone show, that the addition of APS cures the aforementioned deficiency of Redfern. Absent a teaching or suggestion of displaying an indication of how close query terms are to each other in documents downloaded in response to the query, we are unpersuaded of a *prima facie* case of obviousness. Therefore, we reverse the obviousness rejection of claim 89.

CONCLUSION

In summary, the rejection of claims 1, 3-16, 18-29, 46, 48-52, 54-57, 80-85, and 90 under § 103(a) is affirmed. The rejection of claims 86-89 under § 103(a), however, is reversed. "Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and Interferences. . . ." 37 C.F.R. § 1.192(a). Accordingly, our affirmance is based only on the arguments made in the brief. Any arguments or authorities omitted therefrom are neither before us nor at issue but are considered waived. *Cf. In re Watts*, 354 F.3d 1362, 1367, 69 USPQ2d 1453, 1457 (Fed. Cir. 2004) ("[I]t is important that the applicant challenging a decision not be permitted to raise arguments on appeal that were not presented to the Board.") No

time for taking any action connected with this appeal may be extended under 37 C.F.R.

§ 1.136(a)(1)(iv).

AFFIRMED-IN-PART

JERRY SMITH
Administrative Patent Judge

LANCE LEONARD BARRY
Administrative Patent Judge

ROBERT E. NAPPI
Administrative Patent Judge

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SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
GARDEN CITY, NY 11530